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## On the femoral brushes of the Mantidæ and their function

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(salivary ?) glands, which open always into the mouth and never into the forcipules, and of the Malpighian tubes, and, finally, a large number of histological observations which it is impossible for me to summarize.

The physiological part comprises special researches on alimentation, on the manner in which the *Lithobii* kill their prey, and, lastly, on digestion properly so called. In *Cryptops* the aliments accumulate in the spacious buccal intestine of which I have spoken above, are retained there by the valvular apparatus, and are there transformed by the digestive liquid secreted by the middle intestine situated further on.

In the other Myriopods the principal digestive phenomena take place in the true middle intestine. The liquid secreted is neutral, sometimes slightly alkaline, in *Lithobius*, *Cryptops*, *Himantarium*, *Geophilus*, and *Glomeris*; in *Iulus* alone it is slightly acid. This liquid forms an emulsion of the fats, and evidently dissolves the albuminoid substances.

I have been unable completely to elucidate the function of the anterior glands. The arrangement of their excretory canals and other characters prove that in the carnivorous Myriopods these are not venomous glands \*: but their secretion, at least in *Lithobius* and *Himantarium*, does not possess the characteristic property of the true saliva of the vertebrates and of insects; it does not transform starch into glucose.

As far as we can judge, the Malpighian tubes of the Myriopoda act precisely in the same manner as those of insects; they produce uric acid, urates (e. g. urate of sodium), and oxalate of calcium. They are therefore depuratory urinary organs.—*Mém. de l'Acad. des Sci. de Belgique*, tome xlii. 1876.

*On the Femoral Brushes of the Mantidæ and their Function.*

By J. WOOD-MASON, Esq.

The author states that, while recently examining a specimen of a species of *Hierodula* from the Nicobars, his attention was arrested by two brightish oblong spots, situated one near the distal end of each of the fore femora and nearer to the lower dentate than to the upper entire edge of the joint—and that, on examining these spots more closely by the aid of a lens, he had found that they were brushes of stiff hairs, all of which were directed away from the upper edge of the femur, some of which (namely, those forming the upper half of the brushes) were closely appressed to the surface and threw back the light strongly, while the rest projected almost straight out from it and were the stiffest of all. He had been unable to find any account of these structures in any entomological work to which he had access; and neither M. de Saussure, who had recently published an admirable account of the external anatomy and habits of the whole family, nor Dr. Fischer, the author of the learned Latin work on the Orthoptera of Europe, had made

\* The true venomous glands, which I have succeeded in isolating in some species, will form the subject of a future memoir.

any mention of them. These brushes occurred in numerous species belonging to the following genera:—*Metalleutica*, *Charadodis*, *Humbertiella*, *Micromantis*, *Pseudomantis*, *Archimantis*, *Mesopteryx*, *Chasmatomantis*, *Euchomena*, *Gonypeta*, *Hierodula*, *Mantis*, *Tenodera*, *Iris*, *Phepsis*, *Fischeria*, *Schizocephala*, *Hymenopus*, *Creobrota*, *Paroxypilus*, *Popa*, *Deroplatys*, *Oxyphilus*, *Phyllocrania*, *Ceratomanthis*, *Hestias*, *Gongylus*, *Empusa*, *Blepharis*, &c., and probably universally throughout the whole group, although he had examined none of the American species, which, however, were hardly likely to prove an exception to the rule.—*Proceedings of the Asiatic Society of Bengal*, June 1876.

*On the Geographical Distribution of Schizocephala, a Genus of Mantidæ.* By J. WOOD-MASON, Esq.

The author states that, so far from being a peculiarly African form, as it is considered to be by M. de Saussure in his recent monograph of the family, the remarkable genus *Schizocephala* is one of the most widely distributed, not only of Mantidæ but of insects, in India—and, in support of his statement, gives a long list of localities from which he has received either perfect or immature examples of the (?) single species *S. bicornis*, viz. the Karakpur hills in Behar, Devapur and Chānda in the Central Provinces, Kaladgi in the Bombay presidency, Kachh, Ceylon, Murshidabad and Calcutta in Bengal, Pegu, &c., and quotes the old entomologist Stoll, who describes and figures examples from Tranquebar and China, and Professor Westwood's 'Arcana Entomologica,' in which it is referred to as an Asiatic form. Finally, he concludes either that the locality given by M. de Saussure is erroneous, or that that author's specimens, if really from South Africa, represent a second species of the genus.—*Proceedings of the Asiatic Society of Bengal*, June 1876.

*On the Capture of Rattlesnakes, and on the Association of these Serpents with a small Owl and a little Marmot.* By M. A. TRÉCUL.

During my journey in North America, I traversed in 1848 a region situated to the west of Arkansas, where rattlesnakes are very common. I took several of them, which I sent to the museum; the following year I also sent some from Texas. Having remarked that, after making themselves heard, they had little disposition to fly at persons a little way from them, I conceived the idea of taking them in the following manner. I attached a thread to the end of the ramrod of my gun, and made a slip-knot at its free extremity: I then went to the snake, which I had heard or which had been pointed out to me by the Osages with whom I travelled; I excited it; and when it raised itself up, threatening and hissing, I passed my running knot round its neck and pulled it up. The snake did not then make any movement or any effort to disengage itself, but remained straight as a stick. It was easy to kill it. Those which I sent to the Natural-History Museum at Paris were taken in this way, which other travellers may find useful.